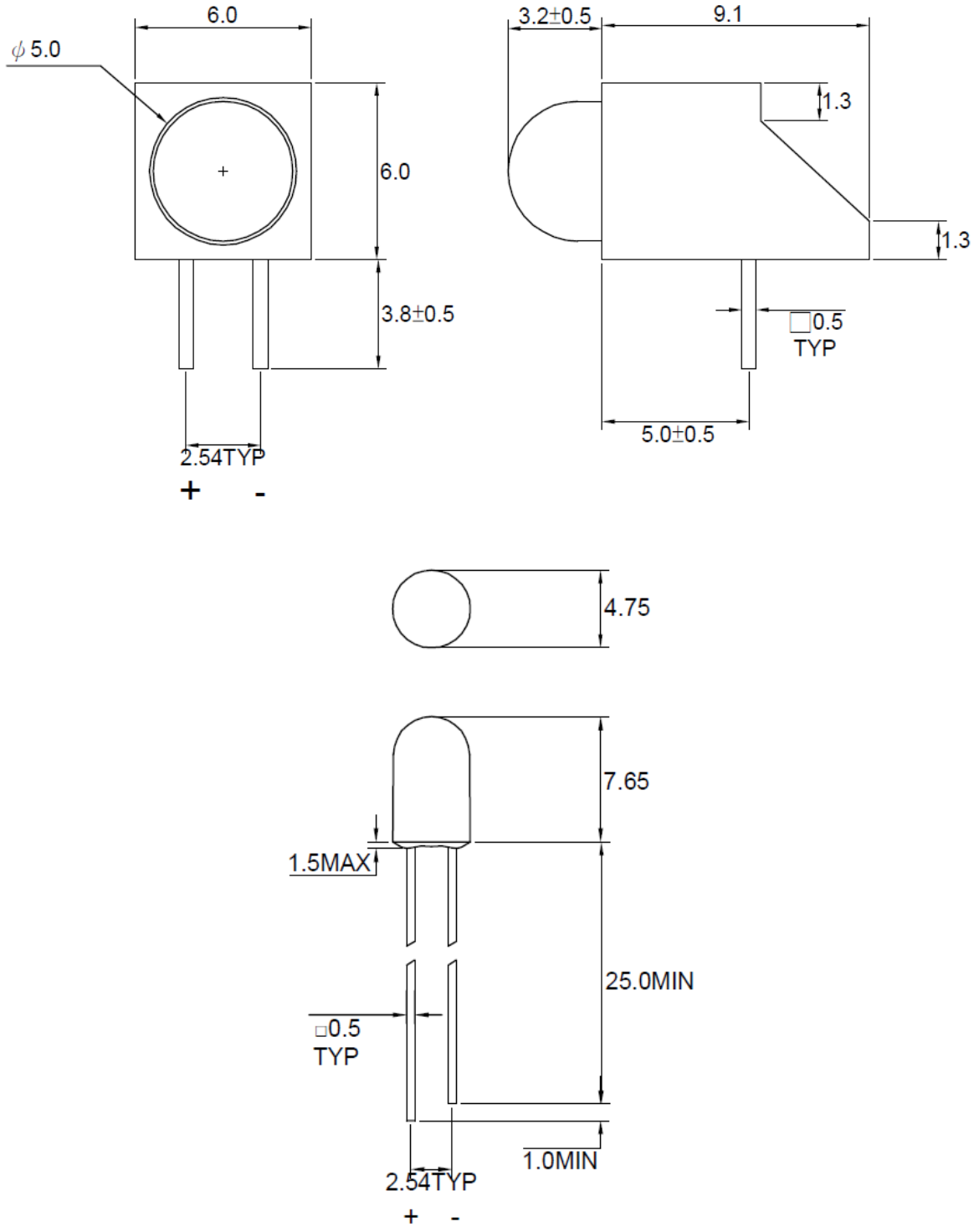
American Opto Plus LED Corp.
L503GD-H401
5mm GREEN LED Lamp with Holder

PACKAGE OUTLINES



Note: All dimensions are in millimeter; tolerance is ± 0.25mm unless otherwise noted.

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Parameter	Symbol	Value	Unit
Forward Current	I_F	30	mA
Peak Forward Current (duty 1/10@10KHz)	I_{FP}	120	mA
Power Dissipation	P_D	100	mW
Reverse Current @ 5V	I_R	10	μA
Operating Temperature Range	T_{OPR}	-40~+85	°C
Storage Temperature Range	T_{STG}	-40~+100	°C

OPTICAL-ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Peak Wavelength	λ_P	I_F = 20mA	--	565	--	nm
Forward Voltage	V_F		1.7	--	2.6	V
Luminous Intensity	I_V	I_F = 10mA	20	30	--	mcd
Viewing Angle	$2\theta_{1/2}$	I_F = 20mA	--	46	--	deg
Spectral Halfwidth	$\Delta\lambda$		--	30	--	nm

*Notes:
1. Luminous Intensity Tolerance is ±15%.
2. Forward voltage tolerance is ±0.1V.

ELECTRICAL OPTICAL CHARACTERISTICS

Fig.1 Forward current vs. Forward Voltage

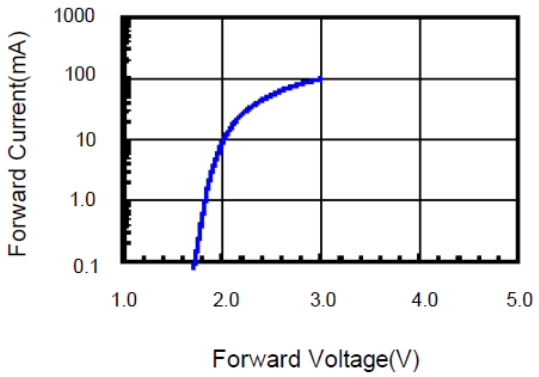


Fig.2 Relative Intensity vs. Forward Current

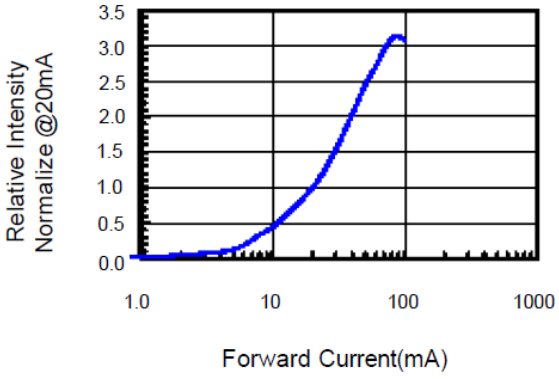


Fig.3 Forward Voltage vs. Temperature

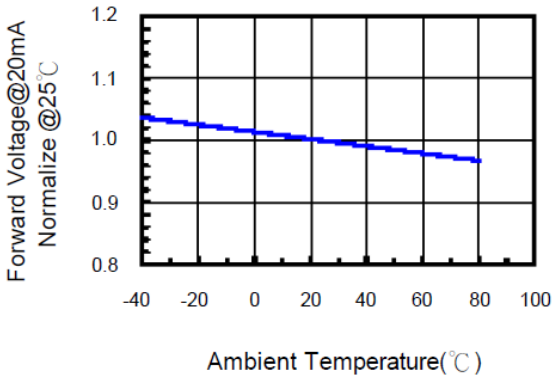


Fig.4 Relative Intensity vs. Temperature

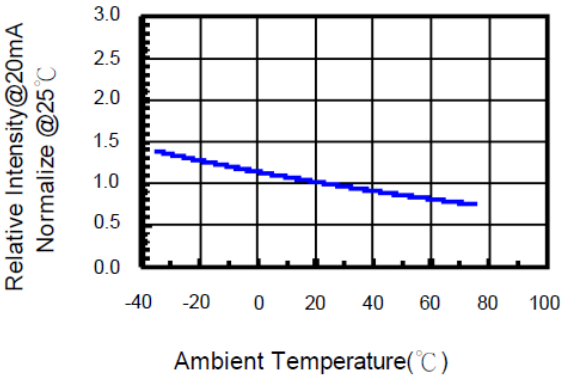
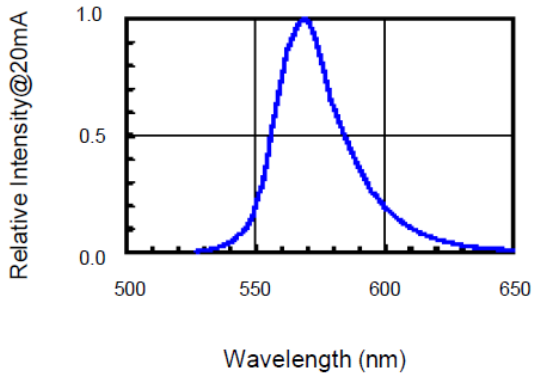


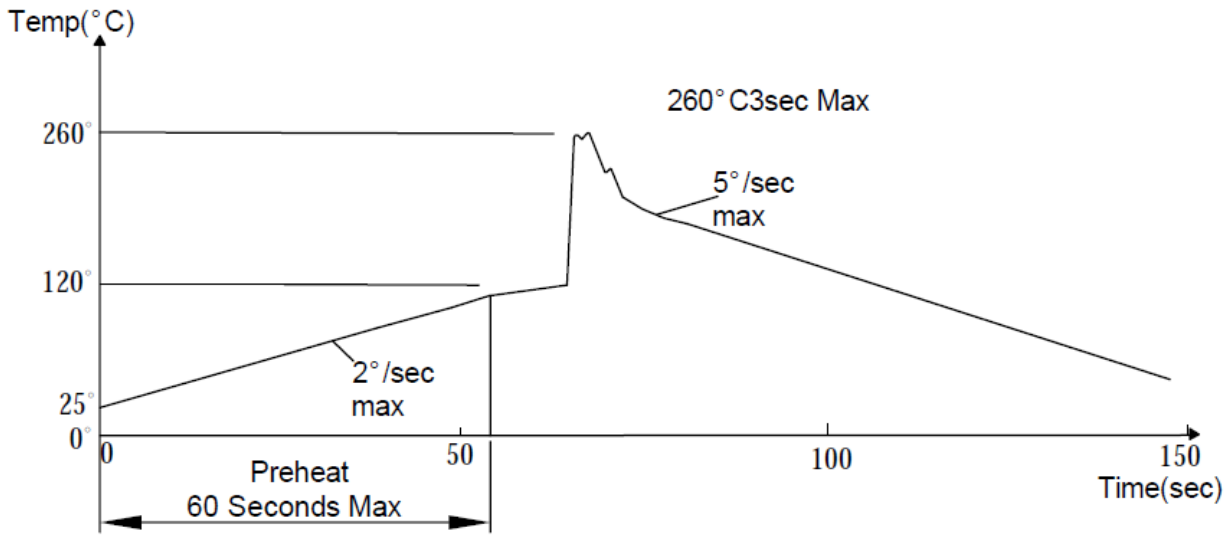
Fig.5 Relative Intensity vs. Wavelength



SOLDERING CONDITIONS (Pb-Free)

1. Iron:
   Soldering Iron: 30W max
   Temperature: 350°C max
   Soldering Time: 3 Seconds max (one time)
   Distance: 2mm min (from solder joint to case)

2. Wave Soldering:
   Dip Soldering
   Preheat: 120°C max
   Preheat time: 60 seconds max
   Ramp-up: 2°C/sec (max)
   Ramp-down: -5°C/sec (max)
   Solder Bath: 260°C max
   Dipping time: 3 seconds max
   Distance: 2mm min (from solder joint to case)



RELIABILITY TEST

Test Item	Test Condition	Description	Reference Standard
Operating Life Test	1.Under Room Temperature 2.If=20mA 3.t=1000 hrs (-24hrs, +72hrs)	This test is conducted for the purpose of detemining the resisance of a part in electrical and themal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=105℃±5℃ 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under ondition of high temperature for hours.	MIL-STD-883:1008 JIS C 7021: B-10
Low Temperature Storage Test	1.Ta=-40℃±5℃ 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of low temperature for hours.	JIS C 7021: B-12
High Temperature High Humidity Test	1.Ta=65℃±5℃ 2.RH=90%~95% 3.t=240hrs±2hrs	The purpose of this test is the resistance of the device under tropical for hous.	MIL-STD-202:103B JIS C 7021: B-11
Thermal Shock Test	1.Ta=105℃±5℃&-40℃±5℃ (10min) (10min) 2.total 10 cycles	The purpose of this is the resistance of the device to sudden extreme changes in high and low temperature.	MIL-STD-202: 107D MIL-STD-750: 1051 MIL-STD-883: 1011
Solder Resistance Test	1.T.Sol=260℃±5℃ 2.Dwell time= 10±1sec.	This test intended to determine the thermal characteristic resistance of the device to sudden exposures at extreme changes in temperature when soldering the lead wire.	MIL-STD-202: 210A MIL-STD-750: 2031 JIS C 7021: A-1
Solderability Test	1.T.Sol=230℃±5℃ 2.Dwell time=5±1sec	This test intended to see soldering well performed or not.	MIL-STD-202: 208D MIL-STD-750: 2026 MIL-STD-883: 2003 JIS C 7021: A-2